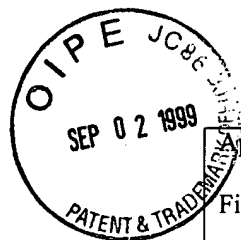


## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



Applicant: Sandeep CHENNAKESHU	Examiner:
Filing Date: 01/26/99	Attorney Docket: 027575-174
Serial No.: 09/237,356	Art Unit: 2734
For: REDUCED COMPLEXITY MLSE EQUALIZER FOR M-ARY MODULATED SIGNALS	

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SEP - 7 1999  
MAIL ROOMAssistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

## CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on August 11, 1999.

*Winters T. Hankins*  
Winters T. Hankins

**REVOCATION AND POWER OF ATTORNEY**

Ericsson Inc, assignee of the entire right, title and interest in and to the above entitled U.S. patent application, and the invention disclosed therein, hereby revokes all previous Powers of Attorney and appoints:

Richard S. Phillips (Reg. No. 17,314), Wm. A. VanSanten (Reg. No. 22,810), Jeffrey L. Clark (Reg. No. 29,141), John S. Mortimer (Reg. No. 30,407), F. William McLaughlin (Reg. No. 32,273), and Dean A. Monco (Reg. No. 30,091), each registered to practice before the United States Patent and Trademark Office and practicing as the firm of **WOOD, PHILLIPS, VAN SANTEN, CLARK & MORTIMER**, and Stephen A. Calogero (Reg. No. 41,491), Ken Bolvin (Reg. No. 34,125), Herbert V. Kerner (Reg. No. 42,721), Kermit D. Lopez (Reg. No. 41,953), Charles L. Moore, Jr. (Reg. No. 33,742), David G. Matthews (Reg. No. 33,959), David K. Purks (Reg. No. 40,133), Kevin A. Sembrat (Reg. No. 36,673), Debra K. Stephens (Reg. No. 38,211), and Mark C. Terrano (Reg. No. 40,200),

as its attorneys and/or agent with full power to handle all matters before the U.S. Patent and Trademark Office.

Please address all future correspondence to Dean Monco at Wood, Phillips, Van Santen, Clark & Mortimer, 500 WEST MADISON STREET, SUITE 3800, CHICAGO, ILLINOIS 60661. Address all telephone inquiries to Dean Monco at (312) 876-1800.

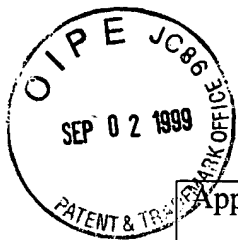
By

*Charles L. Moore, Jr.*  
Charles L. Moore, Jr.

Assistant Secretary and Associate  
General Patent Counsel

Date Aug 11, 1999

**CERTIFICATE UNDER 37 CFR 3.73(b)**



Applicant: Sandeep Chennakeshu, et al.	Examiner:
Filing Date: 01/26/99	Attorney Docket: 027575-174
Serial No.: 09/237,356	Art Unit: 2734
For: REDUCED COMPLEXITY MLSE EQUALIZER FOR M-ARY MODULATED SIGNALS	

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Ericsson Inc., a corporation, certifies that it is the assignee of the entire right, title and interest in the U.S. patent application identified above by virtue of a chain of title from the inventors, Sandeep Chennakeshu, Kambiz Zangi and Gregory E. Bottomley to Ericsson Inc.

The assignment document was recorded in the Patent and Trademark Office at Reel 9735, Frame 0772. A copy of the assignment is attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, Ericsson Inc. is the assignee of the entire right, title and interest in the U.S. patent application identified above.

The undersigned (whose title is supplied below) is empowered to sign this certificate on behalf of Ericsson Inc.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United State Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

By: Charles L. Moore, Jr.

Charles L. Moore, Jr.  
Assistant Secretary and Associate  
General Patent Counsel

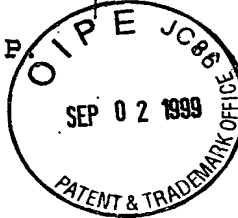
Date: Aug. 11, 1999



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MAY 03, 1999

PTAS  
BURNS, DOANE, SWECKER & MATHIS, L.L.P.  
RONALD L. GRUDZIECKI  
P.O. BOX 1404  
ALEXANDRIA, VIRGINIA 22313-1404



\*100959171A\*

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UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 01/26/1999

REEL/FRAME: 9735/0772  
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:  
CHENNAKESHU, SANDEEP

DOC DATE: 11/30/1998

ASSIGNOR:  
ZANGI, KAMBIZ

DOC DATE: 01/20/1999

ASSIGNOR:  
BOTTOMLEY, GREGORY E.

DOC DATE: 01/20/1999

ASSIGNEE:  
ERICSSON INC.  
7001 DEVELOPMENT DRIVE  
RESEARCH TRIANGLE PARK  
NORTH  
CAROLINA  
27709

SERIAL NUMBER: 09237356  
PATENT NUMBER:

FILING DATE: 01/26/1998  
ISSUE DATE:

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9735/0772 PAGE 2

SEDLEY PYNE, PARALEGAL  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

REC



100959171

Patent and Trademark Office

Attorney's Docket No. 027573-174

To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof.

## 1. Name of conveying party(ies):

Sandeep Chennakeshu  
Kambiz Zangi  
Gregory E. Bottomley

UPD  
1-26-99

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

## 3. Nature of conveyance:

☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name

Other: \_\_\_\_\_

Execution Date: 11/30/98; 1/20/99

## 2. Name and address of receiving party(ies):

Name: Ericsson Inc.

Address: 7001 Development Drive

Research Triangle Park, NC 27709

Additional name(s) & address(es) attached? ☐ Yes ☒ No

## 4. Application number(s) or patent number(s):

09 / 237, 356

If this document is being filed together with a new application, the execution date of the application is: January 26, 1999

A. Patent Application No.(s)

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Ronald L. Grudziecki

Address: BURNS, DOANE, SWECKER &amp; MATHIS, L.L.P.

P.O. Box 1404

Alexandria, Virginia 22313-1404

## 6. Total number of applications and patents involved: 1

## 7. Total fee (37 CFR 3.41): \$ 40.00

☒ Enclosed☒ Authorized to be charged to deposit account, if necessary

## 8. Deposit account number:

02-4800

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## 9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original documents.

John B. Harry  
Name of Person Signing

John Harry Reg. No. 43,367  
Signature

January 26, 1999  
Date

Total number of pages including cover sheet, attachments, and documents: 3

Mail documents to be recorded with required cover sheet information to:

Commissioner of Patents and Trademarks  
Box Assignments  
Washington, D.C. 20231

02/02/1999 WILLARI 00000048 09237356

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# ASSIGNMENT

(JOINT)

THIS ASSIGNMENT, by SANDEEP CHENNAKESHU, KAMBIZ ZANGI, and GREGORY E. BOTTOMLEY, residing at 311 GLEN ABBEY DRIVE, CARY, NC 27513; 3212 QUIET MILL RD., RALEIGH, NC 27612 and 100 MERLOT CT., CARY, NC 27511 (hereinafter referred to as "the Assignors"), respectively, witnesseth:

WHEREAS, the Assignors have invented certain new and useful improvements in REDUCED COMPLEXITY MLSE EQUALIZER FOR M-ARY MODULATED SIGNALS set forth in an application for Letters Patent of the United States, ☐ which is a provisional application to be filed herewith; ☒ which is a non-provisional application having an oath or declaration executed on even date herewith prior to filing of application; ☐ bearing Application No. , and filed on ; and

WHEREAS, ERICSSON INC., a corporation duly organized under and pursuant to the laws of DELAWARE and having its principal place of business at 7001 DEVELOPMENT DRIVE, RESEARCH TRIANGLE PARK, NC 27709 (hereinafter referred to as "the Assignee"), is desirous of acquiring the entire right, title, and interest in and to said inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications, including provisional applications for Letters Patent of the United States or other countries claiming priority to said application, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon.

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, the Assignors have sold, assigned, transferred, and set over, and by these presents do sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns the entire right, title, and interest in and to the above-mentioned inventions, the right to file applications on said inventions and the entire right, title and interest in and to any applications for Letters Patent of the United States or other countries claiming priority to said applications, and any and all Letters Patent or Patents of the United States of America and all foreign countries that may be granted therefor and thereon, and in and to any and all applications claiming priority to said applications, divisions, continuations, and continuations-in-part of said applications, and reissues and extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted as fully and entirely as the same would have been held and enjoyed by the Assignors had this sale and assignment not been made;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, the Assignors are the sole and lawful owners of the entire right, title, and interest in and to the inventions set forth in said applications and said applications, including provisional applications, above-mentioned, and that the same are unencumbered, and that the Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth;

AND for the same consideration, the Assignors hereby covenant and agree to and with the Assignee, its successors, legal representatives, and assigns that the Assignors will, whenever counsel of the Assignee, or the counsel of its successors, legal representatives, and assigns, shall advise that any proceeding in connection with said inventions or said applications for Letters Patent or Patents, or any proceeding in connection with Letters Patent or Patents for said inventions in any country, including interference proceedings, is lawful and desirable, or that any application claiming priority to said application, division, continuation, or continuation-in-part of any applications for Letters Patent or Patents, or any reissue or extension of any Letters Patent or Patents to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement, and defense of Letters Patent or Patents for said inventions, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns;

AND the Assignors hereby authorize and request the attorneys of BURNS, DOANE, SWECKER & MATHIS, L.L.P. of Alexandria, Virginia to insert in the spaces provided above the filing date, application number, and attorney docket number of said application when known.

AND the Assignors hereby request the Commissioner of Patents to issue any and all said Letters Patent of the United States to the Assignee as the Assignee of said inventions, the Letters Patent to be issued for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

Date <u>Nov 30, 1998</u>	Signature of Assignor	<u>C. Sandeep</u> Sandeep Chennakeshu
Date <u>Jan 20, 1999</u>	Signature of Assignor	<u>Kambiz C. Zangi</u> Kambiz Zangi
Date <u>Jan 20, 1999</u>	Signature of Assignor	<u>Gregory E. Bottomley</u> Gregory E. Bottomley